

## **Academic Qualification**

✧ Education:

11/2012 – now PhD Candidate in Robotics

Queensland University of Technology    Overall GPA: 7/7, top 100%

09/2010 - 09/2012:      Research Master **with distinction** In Artificial Intelligence.

*University of Groningen (Netherlands)*    GPA: 8.50/10

*(The programme "Artificial Intelligence" in University of Groningen ranked 1<sup>st</sup> place in the Netherlands in 2011. Link: <http://www.rug.nl/news-and-events/news/archief2010/keuzegids.xml?lang=en>)*

09/2005 - 07/2009:      Bachelor **with honours** in Information Engineering

*South China University of Technology*    GPA:82/100

*(South China University of Technology is ranked among the top 25 best schools in overall and the top 12 best schools in engineering in China. Link:*

*[http://en.wikipedia.org/wiki/Chinese\\_university\\_ranking\\_\(Wu\\_Shulian\)](http://en.wikipedia.org/wiki/Chinese_university_ranking_(Wu_Shulian)) )*

✧ Language: Chinese, English (**IELTS 7.0**), Cantonese,

## **Published Research:**

### **Journal Paper**

✧ Adam Jacobson, **Zetao Chen** and Michael Milford, "Autonomous Multi-Sensor Calibration and Closed Loop Fusion for SLAM", (Second revision, under review) Journal of Field Robotics (JFR). (JFR is a journal with a second highest impact factor in the field of robotics)

### **Conference Paper**

✧ Xutao Li, **Zetao Chen**, Shouyong Wang, "An Approximate Representation of Heavy-tailed Noise: Bi-parameter Cauchy-Gaussian Mixture Model", in *9th International Conference on Signal Processing*, 2008.

✧ Yi-li Chen, Lian-wen Jin+, **Zetao Chen**, Xu-tao Li, Chu-jia Huang, Zhen-hua Feng, "A New Method for Facial Beauty Assessment", in *Chinese Conference on Pattern Recognition* 2008. ( the best conference in pattern recognition in china)

✧ **Zetao Chen**, Lian-wen Jin, Xu-tao Li, Yi-li Chen, Chu-jia Huang, Zhen-hua Feng, "Facial Feature Contour Extraction Using Improved Snake Model" (Chinese Paper), in *the 2009 International Forum on Information Technology and Application* (Link: <http://epub.cnki.net/grid2008/detail.aspx?filename=XNCJ200905001022&dbname=CPFD0911>).

✧ Adam Jacobson, **Zetao Chen** and Michael Milford, "Autonomous Movement-Driven Place Recognition Calibration for Generic Multi-Sensor Robot Platforms", (Accepted) in 2013 Intelligent Robots and Systems conference (IROS 2013).

( IROS is one of the top three conferences in robotics).

✧ **Zetao Chen**, Adam Jacobson, Uğur M. Erdem, Michael E. Hasselmo and Michael Milford, "Bio-inspired Place Recognition over Multiple Spatial Scales ",(under review), Australia Conference on Robotics and Automation, 2013.

✧ **Zetao Chen**, Adam Jacobson, Uğur M. Erdem, Michael E. Hasselmo, and Michael Milford,

"Multi-scale Bio-inspired Place Recognition", (under review) International Conference on Robotics and Automation (ICRA), 2014. (ICRA is one of the top three conferences in robotics) (The last two papers present collaboration work with **University of Boston**. Uğur M. Erdem and Michael E. Hasselmo are both famous neuroscientists from University of Boston. Professor Michael E. Hasselmo has been cited **13800** times on google.scholar)

### **Academic Activities**

Reviewer of

- ✧ IEEE International Conference on Intelligent Robots and Systems - 1 paper
- ✧ Australia Conference on Robotics and Automation - 1 paper

External Collaboration Publications

- ✧ Boston University, USA, 2 conference papers under review.

### **Previous Grants&Scholarships&awards:**

- ✧ HDR Tuition Fee Sponsorship (FEEWAIVER): 06 Nov 2012 – 05 Nov 2015  
Science and Engineering Faculty Top Up Scholarship (SEFTU): 06 Nov 2012 – 05 Nov 2015  
Supervisor's Scholarship (SUPERVISOR): 06 Nov 2012 – 05 Nov 2015  
All from Queensland University of Technology.
- ✧ **Huygens Scholarship** (full scholarship) from Dutch Government for master study:  
09/2010 - 09/2012: total: € 53558(= \$77147) (172 receipts out of 2300 applicants);
- ✧ National Patent (Link: <http://patent.ipexl.com/C2N/200810029422.html>)  
A video based method for facial beauty assessment
- ✧ National Innovation Research Fund from Chinese Ministry of Education: \$ 4800; 4/300
- ✧ 09/2006, 09/2007, Scholarship of top students in academic (top 15%);
- ✧ National Undergraduate Electronics Design Competition Third Prize, 2007  
(Top10%, over 20,000 university students participated in the competition)
- ✧ 2008 National Information Security Contest Third Prize  
(Representing our school, only Chinese top 40 schools can take part in the competition)
- ✧ Excellent Student Leader in Chaozhou city (2002);

### **Relevant Research Experience**

09/2012-present Research Assistant Cyphy lab in Queensland University of Technology

Supervised by: Dr. Michael Milford (Primary)  
Prof. Gordon Wyeth (Associate)  
Prof. Peter Corke (Associate)

- ✧ Work on biologically-inspired vision-based robot navigation and mapping;
- ✧ Authored or co-authored four papers in top conferences and journals in robotics;

02/2011-09/2012

### **Master Thesis**

**Title:** Supervised Feature Selection Based on Generalized Matrix Learning Vector Quantization.

Supervisors: Prof. Michael Biehl: <http://www.cs.rug.nl/~biehl/>

Dr. Marco Wiering: <http://www.ai.rug.nl/~mwiering/>

- ✧ Proposed a new **feature selection** method based on General Matrix Learning Vector Quantization and compare it with other state-of-the-art feature selection algorithms. The new method can combine the process of feature ranking and classification together and its performance is comparable to other methods on most of the data sets;

09/2010-01/2011      **Machine Learning Project**    (supervised by Dr. Marco Wiering)

- ✧ Applied the **RBM-based Auto-encoder** as a way of dimension reduction for face recognition;
- ✧ Compared the face recognition performance between two methods: the first one was to feed the raw image directly into Neural Networks and the second was to perform a dimension reduction first and then feed the reduced features into NNs;

09/2007-12/2008    **Student Group Leader**    A Video-based Facial Beauty Assessment System

**Funding:** USD 4500 supported by Ministry of Education

Supervisor:          Professor Lianwen Jin;

- ✧ Proposed an improved method for chin contour extraction and the paper had been published;
- ✧ Designed the framework of the **beauty assessment** based on Directshow;

05/2008-09/2008    **Programmer**          National Undergraduate Electronics Design Team

- ✧ Implement the **Gabor-feature** based facial features extraction for face recognition on VS2005;
- ✧ Representing my school and won the third place in the National competition ;

### **Employment Experience**

09/2011-03/2012 (Part-time job)    Student Assistant    ICT center in University of Groningen

- ✧ Programmed on one of the Augmented Reality exhibition in cooperation with the High Performance **Computing & Visualization** center;

02/2010 – 08/2010    Research Assistant    in **Signal Processing Lab** Shantou University

- ✧ Worked in a camera **self-calibration** project which tried to reconstruct the **3-D structures** of the cars from traffic surveillance video stream;
- ✧ Read the book 《Multiple View Geometry in Computer Vision》.Familiar with **OpenGL**;

03/2009-01/2010 (Internship and full time)    **DSP engineerer** in Comba Corporation

- ✧ Finished the design of the bottom driven on C6455, familiar with the DSP structures ;
- ✧ Implemented and optimized some communication algorithms on DSP, such as the spectral analysis and base station scan algorithm;

(A brief introduction to one of my previous interesting projects is listed below)

### **Facial beauty-assessment system**

**Introduction:** The project was supported by Ministry of Education and lasted for about one year. I was the student group leader during that time.

(Please check <http://patent.ipexl.com/C2N/200810029422.html> for the patent details).

#### **The major componenets in the project:**

- A framework for video processing based on DirectShow was built and the face detection was first achieved (See Fig 1)

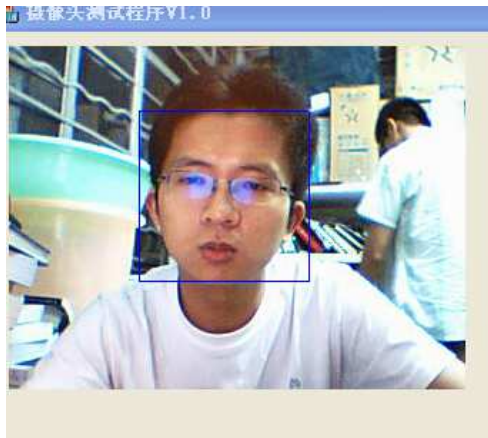


Fig.1 Face detection



Fig.2 Facial features extraction

- The AAM algorithms was implemented to extract facial features for future assessment.(See Fig 2)
- We called on about 200 volunteers to build up our own face database. These 200 images were sent to other volunteers for assessment. In this way, we got the training samples



Fig.3 The samples of our database

- The final result of our system:



Fig.4 the result of our system